WHAT IS CLAIMED IS:

1. A recombinant bacterial host useful as an immunocontraceptive vaccine, said bacterial host comprises a vector encoding an egg- or sperm-specific polypeptide.

2. The bacterial host of claim 1, wherein said polypeptide is linked to a sequence encoding an adjuvant.

3. The bacterial host of claim 2, wherein said adjuvant is selected from the group consisting of diptheria toxoid, the T-cell epitope of tetanus toxin, cholera toxin, beta subunit of cholera toxin, and detoxified form of cholera toxin.

4. The bacterial host of claim 1, wherein said sperm-specific polypeptide is lactate dehydrogenase-C or an antigenic fragment thereof.

5. The bacterial host of claim 4, wherein said lactate dehydrogenase-C is a rodent lactate dehydrogenase-C.

6. The bacterial host of claim 5, wherein said rodent lactate dehydrogenase-C is a rat lactate dehydrogenase-C or mouse lactate dehydrogenase-C.

7. The bacterial host of claim 4, wherein said antigenic fragment is selected from the group consisting of SEQ ID NOs. 1-9.

8. The bacterial host of claim 1, wherein said polypeptide is selected from the group consisting of SEQ ID NOs. 10-17.

9. The bacterial host of claim 1, wherein said bacterial host is selected from the group consisting of *Salmonella typhimorium*, *Salmonella typhimorium* strain SL3261, *Salmonella typhimorium* strain SL7202, Yersinia *enterocolitica, Shigella flexner, Listeria monocytogenes,* and *Escherichia coli.*

10. A method of decreasing the fertility of an animal, comprising the step of:

allowing said animal to ingest the bacterial host of claim 1.

11. The method of claim 10, wherein said animal is selected from the group consisting of mouse, rat, deer, elephants, water buffalo, feral horses, foxes, urban or wild dogs, urban or wild cats, rabbits, and other potentially overpopulated species causing economic damage to society.

12. The method of claim 10, wherein said bacterial host is freeze-dried or prepared as a bait formulation.

13. A recombinant bacterial host that expresses a sperm-specific polypeptide lactate dehydrogenase-C or an antigenic fragment thereof.

14. The bacterial host of claim 13, wherein said lactate dehydrogenase-C is a rodent lactate dehydrogenase-C.

15. The bacterial host of claim 14, wherein said rodent lactate dehydrogenase-C is a rat lactate dehydrogenase-C or mouse lactate dehydrogenase-C.

16. The bacterial host of claim 13, wherein said antigenic fragment is selected from the group consisting of SEQ ID NOs. 1-9.

17. The bacterial host of claim 13, wherein said polypeptide or antigenic fragment is linked to a sequence encoding an adjuvant.

18. The bacterial host of claim 17, wherein said adjuvant is selected from the group consisting of diptheria toxoid, the T-cell epitope of tetanus toxin, cholera toxin, beta subunit of cholera toxin, and detoxified form of cholera toxin.

19. The bacterial host of claim 13, wherein said bacterial host is selected from the group consisting of *Salmonella typhimorium*, *Salmonella typhimorium* strain SL3261, *Salmonella typhimorium* strain SL7202, Yersinia *enterocolitica, Shigella flexner, Listeria monocytogenes,* and *Escherichia coli.*

20. A method of decreasing the fertility of an animal, comprising the step of:

allowing said animal to ingest the bacterial host of claim 13.

21. The method of claim 20, wherein said animal is selected from the group consisting of mouse, rat, deer, elephants, water buffalo, feral horses, foxes, urban or wild dogs, urban or wild cats, rabbits, and other potentially overpopulated species causing economic damage to society.

22. The method of claim 20, wherein said bacterial host is freeze-dried or prepared as a bait formulation.